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Beyond Circulation: Assessing Collections in the Age of Student Success

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Abstract

In a time of decreasing collections budgets and expectations of increased fiscal accountability in libraries, collection management librarians are increasingly expected to justify expenditures through the provision of usage data to their stakeholders. Yet traditional methods of collection assessment, often focused upon summary circulation statistics, are only marginally useful in demonstrating collection strength to patrons. To paint a more complete picture of a library's successful collection development program, librarians need to identify and verify a relationship between circulation statistics and improved student outcomes, as well as support of faculty scholarship and teaching. While this task can seem daunting, many methods not involving the use of advanced statistics or an inordinate amount of effort and time do exist. This paper will (a) address best practices in assessment; (b) briefly discuss common barriers to assessment; and (c) review several methods of collection assessment beyond basic circulation counts, including analysis of circulation and interlibrary loan activity, and citation analysis of patron scholarship with practical examples of such analysis from a medium-sized academic library.

Assessment Preparation

Numerous authors have cited an institutional "culture of assessment" as one requirement for successful project completion. Farkas, Hinchliffe, and Houk (2015) note that the following definition of the culture of assessment, by Lakos and Phipps, is often quoted in the literature:

A Culture of Assessment is an organizational environment in which decisions are based on facts, research, and analysis, and where services are planned and delivered in ways that maximize positive outcomes and impacts for customers and stakeholders. A Culture of Assessment exists in organizations where staff care to know what results they produce and how those results relate to customers' expectations. Organizational mission, values, structures, and systems support behavior that is performance and learning-focused. (p. 150)

A culture of assessment, then, assumes an environment in which community members *want* to know how they are doing, *want* to make improvements in their performance if necessary, and most importantly, *want* to know how their workplace practices affect customers' experiences and expectations. There is a positivity inherent in the idea of a culture of assessment. As Farkas, Hinchliffe, and Houk (2015) have said, "Assessment is not something the organization does because of external pressures from the institution or accrediting bodies; it

is something the organization does because library and staff want to better understand library users and how they can improve services and collections to meet user needs" (p. 151).

It is probable that not every library has reached Lakos's and Phipps's ideal. Some assessment activities will always be dictated by outside forces: accreditation bodies require substantive evidence of libraries' fulfilling their missions; institutional administrators want to ensure that the library is providing the best possible services and resources to its patrons. Other barriers to the development of an assessment culture independent of dictated activities also exist.

Lack of time to conduct assessment activities is perhaps the chief detriment to successful assessment. Librarians in all types of libraries regularly assume multiple duties far beyond the confines of their job descriptions; adding one more seemingly complicated activity may be a deal-breaker for even the most active librarian. While increasing numbers of libraries have a dedicated assessment librarian, most institutions soldier on with disparate assessment activities being conducted by individual library departments or by a staff member who has expressed an interest in assessment. With an assessment plan in place, these models can work, but without one, efforts can result in the collection of data for no real purpose and no plan to use the information to improve library services or offerings.

A related issue is that few librarians have had extensive—or indeed, any—formal training in assessment or the statistical techniques and software used to analyze data collected in assessment studies. Funds may be lacking to send an interested librarian to classes or seminars in assessment. By necessity, assessment activities may be limited to techniques gleaned from professional literature and/or how-to statistical analysis books.

Finally, there can be some fear and possibly resentment inherent in the assessment process. It is very easy to equate “assessment” with “judgment,” particularly when an entity outside the library is doing the judging—for instance, an accreditation body or an institutional administrator. What will the results of the assessment mean for library staff? Will there be consequences for the departments in question if they were to be assessed negatively by patrons? Also, if assessment activities are conducted for no apparent reason, that is, nothing is ever done with the results beyond reportage, staff may believe the assessments to be pointless. If not used to improve services, why do assessment?

Planning Assessment Activities

Many of these barriers can be overcome by careful planning. First, define a specific research question to address. Although it is probably very tempting to produce a research question to fit already existing data, doing so may limit your inquiry by transforming it into a convenient exercise to check an assessment box, rather than something useful. Identify something you really want to know, and then see if you have data to inform that question. If an external entity needs assessment information about your library, perhaps a campus administrator or an accrediting agency, think carefully about research methods and questions, and particularly methods of reporting data, that would most resonate with those entities. For example, if you know that your campus provost is a scientist whose research has been conducted with quantitative methods, it might not be the best idea to present the results of a focus group to him as the only means of assessment used to answer a research question. Know your audience in order for your research to have the greatest possible influence on your community.

To ensure that your research is relevant beyond the confines of the library, decide how best to link your question to a larger concern; for instance, the library’s or university’s mission statement. A

well-written library mission statement will include wording regarding how the library should serve its population and is usually broadly stated enough to provide numerous avenues for research. For instance, the Tribble Library’s mission statement includes the phrase, “the Tribble Library strives for excellence by providing the highest quality resources and services in support of student learning and faculty teaching and research” (Christopher Newport University Office of Assessment, personal communication, 2015). That single phrase provides a number of avenues for research: “resources” can be any collection in the library (or collections provided by a consortial agreement). “Services” encompass everything from the quality of a library department to an assessment of a particular program such as the checkout of laptop computers, while the inclusion of populations (faculty and students) served gives the opportunity to assess the quality of services and resources for each population.

It’s very easy to become overwhelmed when planning an assessment project. Identify a question that can be answered fully in the time you’ve allotted for the process. Be honest with yourself; define a reasonable time frame for data collection and analysis. If you don’t have the time or the staffing to do your chosen assessment, consider whether you could examine part of the research question. Is there an alternate method of getting at the answers you need that would require less effort on your part? Do you have assessment experts on your campus—faculty members, perhaps an Office of Assessment, other librarians—who could assist you?

Doing the Assessment

After choosing your research question(s), decide what research method will best fit. Will a quantitative (numbers-based) examination work best? Quantitative studies, given a large enough sample, have the benefit of being generalizable. Qualitative measures such as focus groups and interviews lack generalizability, but can certainly provide vivid examples and details. Mixed-methods studies contain elements of both qualitative and quantitative inquiry, but may take more time to complete than single-method studies.

Then, gather the data needed for the assessment. You may choose to examine already existing data, such as circulation or interlibrary loan statistics. Alternatively, if the data you need does not exist, you may decide to create an entirely new instrument (survey, focus

group protocol, etc.) for the assessment. Should you choose to create a new instrument, always conduct a pilot study before you conduct the actual assessment. You will learn a great deal about the clarity and focus of your instrument by doing so.

Leave ample time for both data collection and analysis. Even though conducting a survey, for instance, seems quite straightforward, you will necessarily have to contend with low response rates, incomplete responses to survey questions, and other glitches that will lengthen the time needed to complete the project. As you examine and analyze the data collected, pay special attention to the things that don't make sense.

Finally, do remember that effective assessment is cyclical. Consider repeating your study at an appropriate interval, not only to provide more data in order to track changes over time, but to identify anomalies in the data and to refine your assessment techniques. In addition to creating a cycle of assessment, make sure to triangulate your results; that is, find a different way to study the same question in order to provide solid conclusions. If you have surveyed students about library services, for instance, consider asking the same questions of faculty to identify points of agreement and/or disagreement, or form a focus group and interview them about specific points you would like to illuminate from survey responses. Each assessment effort should provide additional clarity regarding your research question(s).

Library Assessment Examples from the Tribble Library

Christopher Newport University is a liberal arts university in Newport News, Virginia, with an FTE of 5,100. The Paul and Rosemary Tribble Library holds approximately 250,000 hardcopy volumes and 500,000+ e-books. Until recently, library assessment activities have been both infrequent and fairly informal and have been conducted when there was a need to answer a specific question. In the past five years, staff have conducted three student surveys to evaluate access to needed resources and services, and have also used student focus groups to gather qualitative data on the usefulness of library resources. In addition, each library department maintains detailed statistical data such as circulation data, number of instruction sessions completed, interlibrary loan data, and so on. Books and journals requested through interlibrary loan are regularly tracked; frequently requested titles are considered for inclusion in the Tribble Library collection.

While these activities certainly provided useful data, the necessity for formalizing assessment came prior to the university's most recent SACS (Southern Association of Colleges and Schools) reaccreditation visit. In 2015, each campus department was asked by the university's Office of Assessment to identify an assessment liaison, tasked with identifying key performance indicators (KPIs) for their departments, and for defining acceptable results for each KPI. I chose circulation counts, database usage, and LibGuides usage for the library's KPIs, believing that each measure would demonstrate the strength of the library's collections and strong usage, and indeed, the results were positive. However, when the measures were examined by reviewers in other campus departments, they noted a "failure to note appropriate associations (institutional priorities, standards, university mission)" (Christopher Newport University Office of Assessment, personal communication, October 2015), and that "language focuses on what the program or unit does, rather than what the student learns or the university accomplishes" (Christopher Newport University Office of Assessment, personal communication, October 2015). Obviously, the key performance indicators would have to be revised.

Per reviewers' suggestions, I examined the library's mission statement, which includes two phrases that speak directly to the quality of the library's holdings: "the Tribble Library strives for excellence by providing the highest quality resources . . . in support of student learning and faculty teaching and research," and "the library attains this excellence by providing users with the easiest access to the broadest possible array of information sources" (Christopher Newport University Office of Assessment, personal communication, 2015). Using those phrases as a guide, I identified a research question that incorporated the aims of the library's mission statement: Does the library provide resources that contribute to student learning and faculty teaching and research? Second, how well does the library do in providing relevant resources for that learning and research? After completing an extensive literature review, I identified three articles, summarized below, which provided the most practical and useful methods for evaluating the usefulness of the collection for the university's students, faculty, and staff.

In 1974, George S. Bonn wrote an article entitled "Evaluation of the Collection." In his analysis of various methods for collection evaluation, he rightly stated, "Perhaps the most common objection to statistics is that in themselves, they do not, indeed

cannot, measure quality” (p. 267). He suggested that “proportionate circulation statistics by subject class compiled over a definite period are excellent checks on overall selection policies and acquisition rates when compared to proportionate holdings statistics by subject class” (pp. 272–273). Therefore, use factor is calculated by dividing call number percentage of circulation by call number percentage of holdings. Results exceeding 1.0 indicate overuse of a call number area; results below 1.0 indicate underuse. As Aguilar (1986) has said, “If subject A provides 27.73% of all circulation, but it accounts for only 14.2% of holdings (thus providing a ‘use factor’ of 1.95, it becomes apparent that subject A is being overused vis-à-vis the holdings” (p. 18).

Other researchers would refine Bonn’s formula. In 1982, Mills suggested multiplying Bonn’s use factor by 100 in order to produce a “percentage of expected use,” saying, “as we would expect a subject area to account for approximately the same percentage of use as its percentage of holdings, by multiplying the use factor by 100 we can determine the percentage if the actual amount of use was above or below the expected amount” (p. 6). Presumably, subject areas that accounted for a certain percentage of the collection would account for the same percentage of use. In essence, Mills provided a clearer representation of Bonn’s use factor.

However, the question of what constitutes “too much” use (how much over 100% is too much over 100%), or “not enough” use (how much under 100% is too much under 100%) remained unanswered. Also, the fact that libraries routinely supplement their collections through the use of interlibrary loan needed to be factored into the analysis. William Aguilar addressed these questions in his 1986 article, “The Application of Relative Use and Interlibrary Loan in Collection Development.” Aguilar devised a calculation he called the “ratio of borrowings to holdings” (RBH) (p. 20), a revision of Bonn’s use

factor, substituting the percentage of interlibrary loan borrowings in a call number area for Bonn’s percentage of call number circulations. Dividing the percentage of interlibrary loan borrowings in a call number designation by the percentage of holdings in the same call number area provides an accurate representation of how much a library’s collection is being supplemented—if at all—by interlibrary loan items. As each library’s collection content and use naturally vary, and as there can be no standard of “too much” or “too little” usage, Aguilar suggested using Dowlin and McGrath’s “inventory use ratio,” in which PEUs are listed from low to high, and standard deviations for the PEUs are calculated. Those call number designations with inventory use ratios more than one standard deviation above the mean are considered overused, while those more than one standard deviation below the mean are considered underused. Then, Aguilar developed a decision table integrating all possible combinations of PEU and RBH to assist in determining whether purchases should (a) continue to be made at current levels; (b) be increased; (c) be more closely examined; or (d) be discontinued altogether (Aguilar 1986).

I conducted an assessment of the Tribble Library’s use factor using broad call number areas (A, B, C, etc., with no subdivisions). Selected results are listed in Table 1.

While the majority of the results shown in Table 1 were expected, given the parameters of the collection (extensive history holdings, etc.), the results for call number “A” were a bit surprising. The “A” call number area is among the smallest in the collection and contains, for the most part, generalities. Why, then, is the collection apparently being overused? Further research into more specific call number designations will be necessary before confirming the reason; however, CNU recently added a concentration in Museum Studies, call number “AM,” and while the collection is being expanded, it is still small. This could be the reason for overuse.

Table 1. Selected use factor study results.

Call Number	% of Circulation	% of Collection	Use Factor
D	13.34%	7.97%	1.67%
A	.2928%	.1938%	1.51%
L	1.3637%	3.6368%	.3749%
Z	.1524	.5046	.302%

Future Assessment Plans

In addition to the more focused use factor/percentage of expected use review mentioned above, we will continue to conduct assessment projects that, like the techniques discussed above, do not involve complicated statistical analysis nor any budgetary commitments. For instance, the next project will be a citation analysis of student theses. As Hoffman and Douchette (2012) have noted, any/all of the following variables may be analyzed: types of resources cited, age of cited resources, library holdings, number of citations per publication, subject areas of cited journals, language of citations, impact factor of cited journals, and cost per circulation. As with any assessment method, there are limitations, such as those outlined by Sylvia (1998): not all works consulted are necessarily cited; an author may cite publications used only marginally; extraneous citations may be used to increase the length of the work; and students may use only readily available sources (para. 9-10).

The rationale for this project is twofold: the call number study discussed in this paper examined over- and underuse of the library's circulating hardcopy book collection. Book circulation is only part of the story, though. Some disciplines, particularly the sciences, depend on cutting-edge journal articles for their research needs, as is evidenced by lower circulation of hardcopy books in the call number areas devoted to the sciences. As two of our three graduate programs are in the sciences, doing a citation analysis of graduate theses should provide valuable information regarding not only what journals our students are using for advanced research, but whether or not the library subscribes to them.

As substantive assessment endeavors become part of the fabric of institutions of higher learning, libraries must find interesting, relevant methods for engaging in the assessment process. The techniques discussed above, in addition to the many alternative methods explored in library literature, provide straightforward and stress-free ways to evaluate library collections.

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